



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0901; Directorate Identifier 2012-NE-19-AD; Amendment 39-17314; AD 2012-27-02]**

**RIN 2120-AA64**

**Airworthiness Directives;** Turbomeca S.A. Turboshift Engines.

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Turbomeca S.A. Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, and 1S1 turboshaft engines. This AD requires performing a high gas generator speed (NG) rating vibration check. This AD was prompted by several reports of uncommanded in-flight shutdown on Arriel 1 engines. We are issuing this AD to prevent an uncommanded in-flight shutdown of the engine, which could result in an emergency landing.

**DATES:** This AD becomes effective [Insert date 35 days after date of publication in the FEDERAL REGISTER].

**ADDRESSES:** The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

**FOR FURTHER INFORMATION CONTACT:** Frederick Zink, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England

Executive Park, Burlington, MA 01803; e-mail: frederick.zink@faa.gov; phone: 781-238-7779; fax: 781-238-7199.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the *Federal Register* on September 13, 2012 (77 FR 56585). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Several cases of uncommanded in-flight shut-down (IFSD) have been reported on ARRIEL 1 engines. Results of subsequent investigations showed that some Gas Generator (GG) rear bearing failures have occurred following “Level 3” maintenance actions on the GG rotating assembly. Some of these maintenance actions may have created an unbalanced condition of the GG rotating assembly and, ultimately, failure of the GG rear bearing.

This condition, if not detected and corrected, could lead to an uncommanded engine in-flight shut down and may ultimately lead to an emergency landing.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (77 FR 56585, September 13, 2012).

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed (77 FR 56585, September 13, 2012).

### **Costs of Compliance**

Based on the service information, we estimate that this AD affects about 1,445 engines installed on airplanes of U.S. registry. We also estimate that it will take about 1

hour per product to comply with this AD. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$122,825.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

2012-27-02 **Turbomeca S.A.:** Amendment 39-17314; Docket No. FAA-2012-0901; Directorate Identifier 2012-NE-19-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective [Insert date 35 days after date of publication in the FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Turbomeca S.A. ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, and 1S1 turboshaft engines.

**(d) Reason**

This AD was prompted by several reports of uncommanded in-flight shutdown on Arriel 1 engines. We are issuing this AD to prevent an uncommanded in-flight shutdown of the engine, which could result in an emergency landing.

**(e) Actions and Compliance**

Unless already done, from the effective date of this AD, do the following. After any Level 3 maintenance action on the gas generator (GG) rotating assembly and before returning the engine to service, accomplish a high GG speed (NG) rating vibration check.

**(f) Definition**

Level 3 maintenance on the GG rotating assembly is when the Module 03 is removed from the helicopter for implementation of deep maintenance operation to be performed in accordance with the applicable maintenance instructions.

**(g) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(h) Related Information**

(1) For more information about this AD, contact Frederick Zink, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: [frederick.zink@faa.gov](mailto:frederick.zink@faa.gov); phone: 781-238-7779; fax: 781-238-7199.

(2) Refer to Mandatory Continuing Airworthiness Information AD 2012-0117, dated July 3, 2012, for related information.

Issued in Burlington, Massachusetts, on December 31, 2012.

Kevin Dickert,  
Acting Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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